AMENDMENTS TO THE DRAWINGS:

Please replace FIG.2 with the amended FIG.2 in Appendix I. The attached sheet of drawing includes change to FIG.2, in which previously omitted reference numeral 100 has been added.

Attachments:

Annotated Drawing Sheet

Replacement Drawing Sheet

REMARKS

The Examiner's Action mailed on May 27, 2005 has been received and its contents carefully considered. After entry of the foregoing amendments, claims 1-20 remain pending in this application. In this Amendment, Applicants have amended claims 1, 3 and 4, and added claims 6-20. Claims 1, 3, 5, 10, 11, 13, 15 and 20 are independent claims. For at least the following reasons, it is submitted that this application is in condition for allowance.

The drawings were objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Specification, page 4, in the list # 100, an organic layer is not shown in the drawing. In response thereto, the informality in the drawing recited by Examiner's Action is corrected accordingly. The objection therefore no longer is applicable and accordingly should be withdrawn.

Claims 1-5 have been objected to because of certain informalities. Specifically, claims 1-5 were objected to because claims 1 and 3 include essential subject matter, in this case ($e \leq 2$, 2-c = a+b+c+d+f) enclosed within parentheses. In response thereto, claims 1 and 3 have been editorially amended to correct the informalities noted by the Examiner. Accordingly, the objection should be withdrawn.

Turning now to the substantive rejections, claims 1, 3 and 5 were tentatively rejected under 35 U.S.C. § 102(b) as allegedly anticipated by *Harvey III et al.* (US Patent No. 5,757,126). For at least the reasons set forth below, Applicants respectfully request reconsideration and withdrawal of this rejection.

As amended, independent claim 1 recites a plastic substrate for organic electroluminescent devices comprising a plastic substrate and **a deposition film** with a predetermined thickness

formed on the plastic substrate by **plasma chemical vapor deposition**. The film has a formula of $SiO_eC_aH_bX_cY_dZ_f$, **wherein both** $e \leq 2$ **and** $2\text{-}e = a+b+c+d+f$ **are satisfied**. X, Y and Z are selected from the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Pd, Ag, Pt, Au and the elements in periodic table IA, IIA, IIIA, IVA, VA, VIA and VIIA excepting H. In addition, **the deposition film has transparency 97% or more.**

In contrast, *Harvey III et al.* disclose an organic LED 10 including an array 12 of pixels of organic light emitting device (LEDs), a plastic substrate 11 and a multi-layer overcoating 16. The array 12 is positioned on the plastic substrate 11 by fabricating the array 12 on the multi-layer overcoating 16 deposited on the plastic substrate 11. (column 4, lines 3-13; FIG.1) The multi-layer overcoating 16 is comprised of at least two alternative layers of a polymer film 17 and a transparent dielectric material 18. (column 4, lines 31-34; FIGs.1 and 3) The polymer film layer 17 is provided to improve the barrier properties of multi-layer overcoating 16, thereby slowing the diffusion of moisture and oxygen permeation through plastic substrate 11. The polymers, which may be used in the formation of polymer film layer 17, are chosen from a group of robust polymers, such as fluorinated polymers, parylenes and cyclotenes. The polymer film layer 17 may be applied through a process of dipping the plastic substrate 11, a spin-coating process, sputtering process or by evaporative coating of the plastic substrate 11. The dielectric material layer 18 is used as a physical barrier to stop the diffusion of moisture vapor and oxygen through the plastic substrate 11, thereby damaging organic LED device 10. The dielectric material layer 18 is preferably formed from one of silicon monoxide (SiO), silicon oxide (SiOx), silicon dioxide (SiO_2) or silicon nitride (Si_3N_4) and is applied to the plastic substrate 11 in alternating layers with the polymer film layer 17 by thermal evaporation, sputtering or PECVD methods. (column 4, line 56-column 5, line 13; FIG 3)

Significantly, *Harvey III et al.* fail to disclose (or even to suggest) that the deposition film has transparency 97% or more, as recited in Applicants' independent claim 1. Instead, *Harvey III et al.* disclose that the multi-layer overcoating 16 is comprised of at least two alternative layers of a polymer film 17 and a transparent dielectric material 18, and the polymers, which may be used in the formation of polymer film layer 17 are chosen from a group of robust polymers, such as fluorinated polymers, parylenes and cyclotenes. Moreover, *Harvey III et al.* disclose that the dielectric material 18 is applied to the plastic substrate 11 in alternating layers with the polymer film layer 17 by thermal evaporation, sputtering or PECVD methods. This is in stark contrast with the claimed embodiment, in which the deposition film with a predetermined thickness is formed on the plastic substrate by plasma chemical vapor deposition.

As such, independent claim 1, as well as dependent claims 2, 6 and 7, are not anticipated by (or rendered obvious by) *Harvey III et al.*

Applicants' amended independent claims 3, 5 and 10 include distinguishing limitations similar to those of claim 1. For example, independent claim 3 (as amended) defines the deposition film having transparency of at least 97%. Moreover, dependent claims 4, 8 and 9 dependent also are patentable over *Harvey III et al.* As such, it is submitted that the independent claims 3, 5 and 10, as well as dependent claims 4, 8 and 9 are not anticipated by (or rendered obvious by) *Harvey III et al.* Applicants therefore request that these rejections be withdrawn.

Claims 1-5 have also been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by *Graff et al.* (US Patent No. 6,570,325).

Graff et al. disclose an encapsulated OLED 200 including a substrate 205, a first barrier stack 210, an organic light emitting device 215, and a second barrier stack 220. The first barrier stack 210 has first decoupling layers 225, 230 and first barrier layers 235, 240. The second

barrier stack 220 includes second decoupling layers 245, 250 and second barrier layers 255, 260. The organic light emitting device 215 is encapsulated between first barrier stack 210 and second barrier stack 220. (column 5 lines 28-37; FIG 2) The barrier stacks can have one or more decoupling layers and one or more barrier layers. There could be one decoupling layer and one barrier layer, there could be multiple decoupling layers on one side of one or more barrier layers, or there could be one or more decoupling layers on both sides of one or more barrier layers. The first layer of the barrier stack can be either the decoupling layer or the barrier layer, and the last layer can be either. The important feature is that the barrier stack has at least one decoupling layer and at least one barrier layer. (column 4 line 63-column 5 line 6) The substrate 205 can be flexible or rigid, depending on the application. (column 6, line 5) The barrier layers 225 in the barrier stacks may be any suitable barrier material, such as silicon oxide. (column 6, lines 23-25 and line 33) The barrier layers may be deposited by any suitable process including, but not limited to, conventional vacuum processes such as sputtering, evaporation, sublimation, chemical vapor deposition (CVD), plasma enhanced chemical vapor deposition (PECVD), electron cyclotron resonance-plasma enhanced vapor deposition (ECR-PECVD), and combinations thereof. (column 6, lines 55-61). The decoupling layer may be made of parylene. (column 8 line 39)

Significantly, *Graff et al.* fail to disclose (or even to suggest) that the deposition film has transparency 97% or more, as recited in Applicants' independent claim 1. Instead, the barrier stack of *Graff et al.* has at least two layers including one decoupling layer and one barrier layer. The barrier layers may be any suitable barrier material, such as silicon oxide. The decoupling layer may be made of parylene.

Further, *Graff et al.* fail to disclose (or even to suggest) that the barrier layer can be formed by plasma chemical vapor deposition, as recited in claim 1. Rather, *Graff et al.* disclose that the barrier layer may be deposited by any suitable process including, but not limited to, conventional vacuum processes such as sputtering, evaporation, sublimation, chemical vapor deposition (CVD), plasma enhanced chemical vapor deposition (PECVD), electron cyclotron resonance-plasma enhanced vapor deposition (ECR-PECVD), and combinations thereof.

As such, independent claim 1, as well as the claims 2, 6 and 7 dependent therefrom, are not anticipated by (or rendered obvious by) *Graff et al.*

Further, Applicants' amended independent claim 3 and independent claims 5 and 10, which include limitations similar to those of claim 1, patently define over *Graff et al.*. Moreover, claims 4, 8 and 9 dependent from claim 3 also are patentable over *Graff et al.* As such, it is submitted that the independent claims 3, 5, and 10, as well as the claim 4, 8 and 9 dependent from claim 3, are not anticipated by (or rendered obvious by) *Graff et al.* It is therefore submitted that this rejection should be withdrawn.

Turning now to independent claim 11, Applicants' amended independent claim 11 recites (among other features) a plastic substrate for organic electroluminescent devices comprising a plastic substrate and **a deposition film** with a predetermined thickness formed on the plastic substrate by **plasma chemical vapor deposition**. The film has a formula of $SiO_eC_aH_bX_cY_dZ_f$, **wherein both e < 2 and 2-e = a+b+c+d+f are satisfied.** X, Y and Z are selected from the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Pd, Ag, Pt, Au and the elements in periodic table IA, IIA, IIIA, IVA, VA, VIA and VIIA excepting H.

There is no disclosure (or even a suggestion) by *Harvey III et al.* of the deposition film with a formula of $SiO_eC_aH_bX_cY_dZ_f$, wherein e < 2, 2-e = a+b+c+d+f, X, Y and Z are selected

form the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Pd, Ag, Pt, Au and the elements in periodic table IA, IIA, IIIA, IVA, VA, VIA and VIIA excepting H, as recited in Applicants' independent claim 11. Instead, *Harvey III et al.* disclose that the multi-layer overcoating 16 is comprised of at least two alternative layers of a polymer film 17 and a transparent dielectric material 18 and the dielectric material 18 is preferably formed from one of silicon monoxide (SiO), silicon oxide (SiOx), silicon dioxide (SiO_2) or silicon nitride (Si_3N_4).

Moreover, *Harvey III et al.* disclose that the dielectric material 18 is applied to the plastic substrate 11 in alternating layers with the polymer film layer 17 by thermal evaporation, sputtering or PECVD methods. This contrast with the claimed invention in which the deposition film with a predetermined thickness is formed on the plastic substrate by plasma chemical vapor deposition.

As such, it is submitted that the independent claim 11, as well as claims 12, 16 and 17 dependent therefrom, are not anticipated by (or rendered obvious by) *Harvey III et al.*

Further, Applicants' amended independent claims 13, 15 and 20 include limitations similar to those of claim 11, and thus define over *Harvey III et al.* for similar reasons. Moreover, claims 14, 18, and 19 dependend from claim 13 also are patentable over *Harvey III et al.*

With regard to the application of *Graff et al.* to these claims, there is no disclosure (or even a suggestion) by *Graff et al.* of deposition film with a formula of $SiO_eC_aH_bX_cY_dZ_f$, wherein $e < 2$, $2-e = a+b+c+d+f$, X, Y and Z are selected form the group consisting of Sc, Ti, V, Cr, Mn, Fe, Co, Ni, Cu, Zn, Pd, Ag, Pt, Au and the elements in periodic table IA, IIA, IIIA, IVA, VA, VIA and VIIA excepting H, as recited in Applicants' independent claim 11. The barrier stack of *Graff et al.* has at least two layers including one decoupling layer and one barrier layer, such as silicon oxide.

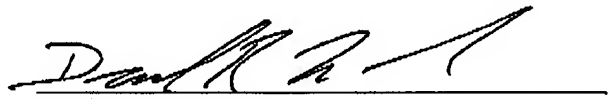
As such, independent claim 11, as well as claims 12, 16 and 17 dependent therefrom, are not anticipated by (or rendered obvious by) *Graff et al.* Further, Applicants' amended independent claims 13, 15, and 20 include limitations similar to those of claim 11. Moreover, claims 14, 18 and 19 dependent from claim 13 also are patentable over *Graff et al.* As such, it is submitted that the independent claims 13, 15 and 20, as well as the claim 14, 18 and 19 dependent from claim 13, are not anticipated by (or rendered obvious by) *Graff et al.* It is therefore submitted that this rejection should be withdrawn.

CONCLUSION

In view of the foregoing, it is believed that all pending claims are in proper condition for allowance. If the Examiner believes that a telephone conference would expedite the examination of the above-identified patent application, the Examiner is invited to call the undersigned.

No fee is believed to be due in connection with this amendment and response to Office Action. If, however, any fee is believed to be due, you are hereby authorized to charge any such fee to deposit account No. 20-0778.

Respectfully submitted,

By: 

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